Eyes on the Sky

Public Lecture Series, February 10–May 12, 2005

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NASA Goddard Visitor Center Auditorium

Einstein's Warped Universe: From the Big Bang to Black Holes

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Abstract

One hundred years ago Einstein's Relativity Theory changed our understanding of time. Rather than a single universal clock, ticking the same way everywhere, he realized that time depends on the motion of the clock. What's more, he saw that gravity is nothing but the warping of time (and space), so that time depends also on the location of the clock. Relativity theory has now been observed in many phenomena, and is both a practical matter and a means of understanding and exploring the cosmos, for instance through its predictions of bending of light rays, black holes, expansion of the universe, and gravitational waves: ripples of time and space. But the theory presents yet deeper mysteries which it is unable to address.

Short Biographical Sketch

Ted Jacobson grew up with a love of mathematics, and plenty of wonder but no knowledge of how things work. A fan of mathematical science fiction, in middle school he built an unfolded four-dimensional hypercube out of LEGO pieces after reading Heinlein's story, "And He Built A Crooked House". The puzzle of the deeper structure of the apparently "ordinary" is what grabs him. High school physics was an exhilarating revelation of the secrets of nature, and he's been hooked ever since. He is now Professor of Physics at the University of Maryland, and the target of his research is to understand the quantum nature of space and time.

Shuttle Bus Service from College Park Metro Station will be available. Please check Web site for details.
To request a sign language interpreter please contact us by email at LRana@pop600.gsfc.nasa.gov

Admission is free. Please RSVP online to reserve a spot.
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For questions contact us by phone at 301-286-2893/ 9690.

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